REMARKS

The aforementioned Office Action stated that claims 1-19 were pending in this application, that claim 10 was allowed, that claims 1-9 and 11-19 were rejected. Allowed claim 10 is unchanged. The rejected claims 1-9 and 11-19 have been cancelled and new claims 20-38 inserted; in view of the major changes in the claims desired by applicants, it is believed that it is most convenient for both the Examiner and the undersigned attorney to have a "clean" set of claims on which further prosecution of this application can be based.

Claim 20 is directed to the embodiments of the invention shown in Figures 1A-1C, 2A-2D, 4A, 4B, 5A and 5B of the drawings. Basis for this claim is found, *inter alia*, in Figures 1A-1C and the accompanying description on pages 11-14 of the description. More specifically, claim 20 is directed to:

an electrophoretic display comprising:

at least one capsule (20) containing a suspending fluid (25) and at least one particle (50) in the suspending fluid (25), the particle (50) having a first color (for example the black color mentioned at page 13, line 22) the capsule (20) having a first surface (the upper surface as illustrated in Figures 1A and 1B) through which a viewer (10) can view the display, and a second surface (the lower surface as illustrated in Figures 1A and 1B) on the opposed side of the capsule from the first surface;

a first electrode (30) disposed adjacent the second surface of the capsule (20) and having a second color (for example, the black color mentioned at page 13, line 23); and

a second electrode (40) disposed adjacent the second surface of the capsule (20) and having a third color (for example, the white color mentioned at page 13, line 24) different from the second color,

wherein application of voltage potentials to the first and second electrodes (30 and 40) can shift the capsule (20) between a first visual state (illustrated in Figure 1A), in which the particles (50) lie adjacent the first electrode (30) but not adjacent the

second electrode (40), and a second visual state (illustrated in Figure 1B), in which the particles (50) do not lie adjacent the first electrode (30) but do lie adjacent the second electrode (40), the first and second visual states being visibly different to the viewer viewing the display through the first surface of the capsule (as described in detail in the paragraph bridging pages 13 and 14 of the specification).

Claim 21 is directed to an electrophoretic display according to claim 20 having the same additional feature as former claim 7. Claim 22 is directed to an electrophoretic display according to claim 20 having the same additional feature as former claim 8, with some change of language but no change of substance. Additional basis for claim 22 is found in the aforementioned paragraph bridging pages 13 and 14 of the specification, which describes black particles 50, a black electrode 30 and a white electrode 40. Claim 23 is directed to an electrophoretic display according to claim 20 having the same additional feature as former claim 9. Claim 24 is directed to an electrophoretic display according to claim 20 having the same additional feature as former claim 12, with a minor change in language. Similarly, claim 25 is directed to an electrophoretic display according to claim 24 having the same additional feature as former claim 13, again with minor change in language. Claim 26 is directed to an electrophoretic display according to claim 20 having the same additional feature as former claim 19.

Claim 27 is directed to an electrophoretic display according to claim 20 having a plurality of first electrodes and a plurality of second electrodes, and is thus directed to the embodiment of Figures 4A and 4B, in which multiple first (30) and second (40) electrodes are present. Claim 28 is directed to an electrophoretic display according to claim 27 wherein the plurality of first electrodes and the plurality of second electrodes alternate with each other, the arrangement shown in Figures 4A and 4B. Finally, claim 29 is directed to an electrophoretic display according to claim 20 having the same additional feature as former claim 5.

Claim 30 is directed to the embodiments of the invention shown in Figures 3A-3D of the drawings. Basis for this claim is found, *inter alia*, in Figures 3A-3D and the accompanying description on pages 16-18 of the description. More specifically, claim 30 is directed to:

an electrophoretic display comprising:

a capsule (20) comprising a suspending fluid (25) and a plurality of particles (50) in the suspending fluid (25), the particles having a first color (for example the black color mentioned at page 16, line 9 of the description), the capsule (20) having a first surface (the upper surface as illustrated in Figures 3A-3D) through which a viewer (10) can view the display, and a second surface (the lower surface as illustrated in Figures 3A-3D) on the opposed side of the capsule (20) from the first surface; and

first (30) and second (40) electrodes, both the first and second electrodes being disposed adjacent one of the first and second surfaces of the capsule (20; Figures 3A and 3B show both electrodes adjacent the second, lower surface of the capsule 20, whereas Figures 3C and 3D show both electrodes adjacent the first, upper surface of the capsule),

wherein application of voltage potentials to the first (30) and second (40) electrodes can shift the capsule between a first visual state (illustrated in Figures 3A and 3C), in which the particles (50) lie adjacent the first electrode (30) but not adjacent the second electrode (40), and a second visual state (illustrated in Figures 3B and 3D), in which the particles (50) are dispersed throughout the suspending fluid (25), the first and second visual states being visibly different to the viewer viewing the display through the first surface of the capsule (as described in detail at page 16, line 23 to page 17, line 4, and page 17, lines 19-22 of the specification).

Claim 31 is directed to an electrophoretic display according to claim 30 wherein the first and second electrodes are both disposed adjacent the first surface of the capsule and are substantially transparent. Basis for this claim is found, *inter alia*, Figures 3C and 3D and page 17, lines 12-19 of the specification. Claim 32 is directed to an

electrophoretic display according to claim 30 wherein the first and second electrodes are both disposed adjacent the second surface of the capsule; basis for this claim is found, *inter alia*, in Figures 3A and 3B.

Claim 34 is directed to an electrophoretic display according to claim 30 wherein the first electrode is smaller in size than the second electrode, claim 34 to an electrophoretic display according to claim 33 wherein the first electrode has a size not greater than one half of the size of the second electrode, claim 35 to a display according to claim 34 wherein the first electrode has a size not greater than one quarter of the size of the second electrode, and claim 36 to a display according to claim 35 wherein the first electrode has a size not greater than one eighth of the size of the second electrode. Bases for all these claims are found, *inter alia*, at page 16, lines 18-22 of the specification.

Claim 37 is directed to an electrophoretic display according to claim 30 further comprising a reflecting surface disposed adjacent the second surface of the display, and claim 38 to an electrophoretic display according to claim 30 further comprising a translucent layer disposed adjacent the second surface of the display. Bases for both these claims are found, *inter alia*, at page 16, lines 23-27 of the specification.

As will be apparent from the foregoing discussion, no new matter is introduced by any of the new claims.

As will also be apparent from the foregoing discussion, all the new claims added by this Amendment include the feature of former claim 11, namely that the display comprises two electrodes both disposed on the same side of the capsule. Accordingly, applicants consider that the 35 USC 103 rejections set out in Paragraph 1-5 of the Office Action (none of which were applied to former claim 11) are now moot, and that applicants now need to respond only to the 35 USC 103 rejection set out in Paragraphs 6 and 7 of the Office Action, namely that claim 11 is rejected as being unpatentable over Ota, U.S. Patent No. 3,756,693, in view of Naoyuki, JP01-086116, Saxe et al., U.S. Patent No. 5,650,872, Yoneya et al., U.S. Patent No. 5,928,733 and Kikuchi et al., U.S. Patent No. 4,704,002. This Paragraph 6/7 rejection is traversed. As a preliminary matter,

it is respectfully suggested that any 103 rejection which requires a combination of five separate references stands thereby self-condemned.

More importantly, this rejection is traversed on the grounds that Yoneya would not teach a person of ordinary skill in the display art to construct an electrophoretic display in which two electrodes are disposed on the same side of a capsule, as required by all the present claims (other than the allowed claim 10). As noted in Paragraph 7 of the Office Action, Ota, Naoyuki and Saxe all teach electrophoretic displays having two electrodes disposed on opposed sides of the layer of electrophoretic material, so that movement of the particles occurs perpendicular to the thickness of the layer of electrophoretic material (hereinafter for convenience referred to as "vertical" particle movement. For obvious reasons, such vertical particle movement requires an electric field perpendicular to the to the thickness of the layer of electrophoretic material, the same direction as that in which the electric field is applied in a conventional liquid crystal display. Hence (and applicants do not dispute this point) certain types of backplanes designed for use in conventional liquid crystal displays can also be used in electrophoretic displays. Kikuchi shows a backplane of this type; note that in Kikuchi's Figure 1, the picture element (pixel) electrode 8 must be intended to apply an electric field perpendicular to the plane of the backplane itself.

Applicants do not dispute that Yoneya teaches an active matrix liquid crystal display in which both electrodes are disposed on the same side of the liquid crystal medium. However, as taught in detail in column 1 of Yoneya, this positioning of the electrodes is designed to take advantage of a phenomenon peculiar to liquid crystals, namely that liquid crystals can either operate in a twisted nematic mode "in which the direction of the electric field applied to the liquid crystal molecules is set to be substantially vertical to the substrate plane" (Yoneya, column 1, lines 15-17; i.e., vertically as defined above), or by making "use of the birefringence effect of the liquid crystals by setting the direction of the electric field applied to the liquid crystals to be substantially parallel to the substrate plane" (Yoneya, column 1, lines 19-22).

There is nothing in the operation of an electrophoretic display which is remotely analogous to the birefringence mode of a liquid crystal display. Hence, although Yoneya teaches a good reason for providing two electrodes on the same side of a liquid crystal display, Yoneya would not teach the skilled worker to use this "single sided" electrode arrangement in an electrophoretic display, since the skilled worker would know that an electrophoretic display cannot be operated in anything resembling a birefringence mode. Contrary to Paragraph 7 of the Office Action, Kikuchi would not teach the skilled worker to use the single sided electrode arrangement of Yoneya in an electrophoretic display, since, as noted above, Kikuchi only teaches that the same type of electrode can be used to apply a vertical electric field in both liquid crystal and electrophoretic displays, and says nothing regarding any other orientation of the electric field.

For the foregoing reasons, the 35 USC 103 rejection is unjustified and should be withdrawn.

In response to Paragraphs 8-10 of the Office Action, there are filed herewith Terminal Disclaimers disclaiming any portion of the term of any patent granted upon this application which extends beyond the term of U.S. Patent 6,664,944 and copending Application Serial No. 10/701,880. As noted in the Office Action, these Terminal Disclaimers are sufficient to overcome the double patenting rejections.

Reconsideration and allowance of all claims now present is respectfully requested.

After the present Amendment, this application contains 20 claims, including 3 independent claims. Since applicants have already paid the basic filing fee for this application, no fee is required in connection with this Amendment.

Since the normal period for responding to the Office Action expired June 16, a Petition for a two month extension of this period is filed herewith.

Respectfully submitted

David J. Cole
Registration No. 29629

E INK Corporation
733 Concord Avenue
Cambridge MA 02138

Telephone (617) 499-6069
Facsimile (617) 499-6200
E-mail dcole@eink.com